CLAIMS

1. Apparatus for the treatment of vascular and/or muscle and/or tendon disorders and/or to increase the production of VEGF, comprising:

- means designed to generate electrical pulse series having a width from 10 to 40 μsec and intensity from 100 to 170 μAmp, wherein each pulse has a peak that has a width from 7 to 12 nanosec. and a voltage up to 220 Volts;
- means designed to apply the said pulses to a patient through the epidermis;
- means designed to evaluate the tissue reaction;
- means designed to vary the said pulses on the basis of the tissue reaction detected;

at least one of which means can be controlled by the patient/user.

2. Apparatus for the treatment of vascular and/or muscle and/or tendon disorders as claimed in claim 1.

3. Apparatus as claimed in each of the preceding claims, wherein the voltage of the pulses applied is controlled by the patient/user by suitable means.

4. Apparatus as claimed in each of the preceding claims, characterised in that it includes a pair of electrodes designed to transmit the said pulses, one of which can be applied to the motor point and the other to the muscle belly in the area to be treated.

5. Apparatus as claimed in each of the preceding claims, characterised in that the said means designed to transmit the said pulses include devices able to vary the voltage, amplitude and frequency of the said pulses.

6. Apparatus as claimed in each of the preceding claims, characterised in that it includes means designed to regulate the amplitude and frequency of the

pulses, which said means are activated directly by the patient.

7. Apparatus for the treatment of muscle contraction as claimed in claim 1, characterised in that it includes a pair of electrodes designed to transmit the said pulses, one of which can be applied to the motor point and the other to the muscle belly in the area to be treated.

8. Apparatus for anti-inflammatory treatment as claimed in claim 1, characterised in that it includes an active electrode designed to be applied at the site of inflammation, and a passive electrode external to the said site.

9. Apparatus for the treatment of vascular disorders as claimed in claim 1, characterised in that it includes an active electrode designed to be applied upstream of the occlusion and a passive electrode designed to be applied downstream thereof.

10. Apparatus for the activation of the microcirculation as claimed in claim 1, characterised in that it includes an active electrode designed to be applied at the ischaemic site and a passive electrode designed to be applied close to the venous plexus.

11. Apparatus as claimed in claim 1, characterised in that it includes means designed to vary the voltage of the pulses applied, with variable increments between 0.47 V and 0.63 V for each step of the up/down circuit.

12 Apparatus as claimed in claim 1, characterised in that it includes means designed to vary the number of pulses applied between 1 and 420 Hz/second.

13. Apparatus as claimed in claim 1, characterised in that it includes means designed to vary the width of the pulses between 10 and 50 μsec.

14. A method of the treatment of vascular and/or muscle and/or tendon disorders, comprising:

a) applying to a patient in need thereof, a shies of electrical pulses having a width from 10 to 40 μsec and intensity from 100 to 170 μAmp, wherein each pulse has a peak that has a width from 7 to 12 nanosec. and a

voltage up to 220 Volts trough electrodes located on the epidermis of the area to be treated;

b) detecting the tissue reaction after the application of the pulses;

c) modifying the width and intensity of the pulses in relation to the tissue reaction detected in point b).

15. A method according to claim 14 wherein the pulses are modified according to preset treatment programs correlating the detected bioreaction to the time, frequency and width of the electrical pulses.

16. A method for increasing the VEGF in a patient in need thereof, comprising:

a) applying to a patient in need thereof, a shies of electrical pulses having a width from 10 to 40 μsec and intensity from 100 to 170 μAmp, wherein each pulse has a peak that has a width from 7 to 12 nanosec. and a voltage up to 220 Volts trough electrodes located on the epidermis of the area to be treated;

b) detecting the tissue reaction after the application of the pulses;

c) modifying the width and intensity of the pulses in relation to the tissue reaction detected in point b).